2002 ANNUAL REPORT for CSKT Research Permit Requirements

DATE: ____12/31/02_____
PROJECT: ____Evaluation of Wildlife Crossing Structures on US Highway 93 Evaro to Polson—Phase 1: Pre-construction data collection and finalization of evaluation plan
PRINCIPAL INVESTIGATOR: Amanda Hardy, Western Transportation Institute, 416 Cobleigh Hall, Montana State University, Bozeman 59717; ahardy@coe.montana.edu; 994-2322

ANTICIPATED PRODUCTS:

- Memo to Technical Design Committee on monitoring design considerations
- Animal-vehicle incident reporting system
- Field Methods and Safety Protocol Handbook
- Summary of literature and existing data
- Memo defining the Measures of Effectiveness
- Long-term Research and Monitoring Evaluation Plan
- Phase 1 Pre-construction Case Study
- Pre-construction field data summary report
- Pre-construction black bear movement and genetics study

STATUS OF ACTIVITIES AND PRODUCTS (E.G., PROJECT MILESTONES, DELIVERABLES, PRODUCT DISSEMINATION, RELEVANT DIVISION ACTIVITIES) FOR THE PROJECT:

Initial funding: FHWA Streamlining program ($250,000) and Montana Department of Transportation (MDT) match funds ($62,500) contracted to Western Transportation Institute (WTI) at Montana State University (MSU).

Project contracted and initiated in March 2002.

Ongoing Activities:

- On-going literature search and compilation of relevant data.
- On-going discussions on research issues, direction, and potential partnerships with MDT research manager and district biologist, Confederated Salish and Kootenai Tribes (CSKT) tribal biologist, MSU and University of Montana (UM) Ecology/Wildlife Departments and GIS center, and Salish Kootenai College (SKC)
- July-December: On-going work with sub-contractor, Garcia and Associates (GANDA), to establish pre-construction field methods and develop handbook for field methods and protocols.

- July-December: On-going attendance of US 93 Technical Design Committee meetings to document process of decision-making for wildlife crossings and fencing design issues for case study.

March:

- Dr. John Borkowski, MSU statistician, is written into the contract. Dr. Borkowski will assist with study design and statistical analyses.
- Scheduling and planning initial meeting with Research Oversight Committee (ROC) members.
- Contacted CSKT GIS lab about digital layers available. Letter to Fred Matt requesting permission to access data.

April

- US 93 site reconnaissance meetings. Wildlife crossing structure sites visited, design concepts and issues discussed between stakeholders (FHWA, CSKT, MDT), contractor (Skillings-Connolly) and subs (Jones & Jones) and design firms. Monitoring considerations noted.
- Initial ROC meeting in Polson and to some study sites. Research questions, direction discussed. Highlights: Pre- and post-construction road-kill rates will be examined on entire 56-miles of reconstructed road. Pre- and post-construction animal-crossing rates of US 93 focus on three sub-study areas: Evaro, Ravalli curve, Ravalli hills. Within these sub-study areas, species-specific research should be conducted on bears and deer if possible.
- Memo to US 93 Technical Design Committee on monitoring considerations to be incorporated into wildlife crossing structures and fencing designs (delivered April 24, 2002).

May

- Sub-contract work scope development.
- Sub-contracted Kevin Ulrich to research GPS radiocollar technologies and infrared video recording systems.

June

- Sub-contracted Dr. Chris Servheen, USFWS and Adjunct Faculty at UM, to oversee a masters thesis research project entitled, "Black bear crossing and use of sections of Highway 93 in the Evaro and Ravalli areas on the Flathead Indian Reservation, Montana"
- Sub-contracted Garcia and Associates (GANDA), Biological Consultants, Bozeman, Montana, to assist with establishing pre-construction methodologies and implementation.
- Dale Paulson secures an additional $200,000 of FY 02 FHWA Streamlining Initiative funds, MDT provides $50,000 match for additional products (black bear study, field protocol handbook, pre-construction decision-making process case-study). Contract will be amended for this additional $250,000 (for a total of $562,500) once pre-construction methods are established.

- Obtained US 93 animal-vehicle crash database and animal carcass removal database from MDT.

July

- Request to Dale Becker for CSKT wildlife data relative to project. Dale asked that we pursue this in the winter.
- Environmental streamlining panel presentation on US 93 Wildlife Crossing Structure Research at AASHTO Research Advisory Committee meeting.
- Met Karin McCoy, UM masters candidate working with Dr. Servheen on the pre-construction black bear study to coordinate wildlife/motion-detection camera sites and traffic counter data collection efforts.

August

- Met MDT Maintenance foremen at Evaro and Ravalli areas to coordinate a carcass-pinflag protocol to mark places where MDT maintenance crews pick up road-killed animals. Requested MDT to maintain same effort and procedures for picking up and recording data about carcasses. On-going effort by WTI or sub-contractor GANDA to retrieve pinflag and collect attributing data from carcass-pinflag sites.
- Sub-contractor GANDA set-up motion- and heat-triggered camera stations under the Montana Rail Link (MRL) bridge in the Evaro area to monitor pre-construction crossings of animals under US 93 via this existing structural underpass. GANDA/WTI maintaining site and recording resulting photo data in database.
- Set up traffic counters in the Evaro and Ravalli areas. Established contact with Dan Bisom at MDT regarding MDT traffic count data from the weigh-in-motion site between the Evaro and Ravalli areas.
- Met Kathy Griffin, UM PhD candidate doing turtle research related to US 93 reconstruction (separate research from this project with main funding though MDT and WTI scholarship support), to coordinate road-kill monitoring efforts and data collection protocol.
- WTI hires research ecologist Dr. Marcel Huijser. Dr. Huijser will be written into the amended contract to assist on the US 93 project.

September

- On-going maintenance of MRL camera sites and traffic counters.

October

- Pilot study to assess use of tracking beds to estimate animal crossings of highway was initiated in the Evaro area.
- Met with Pat Hurley at SKC to discuss possible undergraduate thesis project coordination with this project's goals.
- Pulled traffic counters due to snowplowing operations.

November

- Continued tracking bed pilot study, lengthening the existing bed and trying different mixture of tracking media. First crossings by deer (2 different events).

December

- Continued tracking bed pilot study. Working on study design and methods to estimate error associated with exposed tracking beds (tracks lost or tracking material not imprinting due to rain, snow, cold, wind, etc). Gathering more information about using infrared video system to estimate error.
- Queried research peers requesting data on animal crossing rates and associated standard deviation to use in power analysis to help determine appropriate number of tracking beds to deploy in order to detect statistical differences in pre- and post-construction crossing rates.
- Initiated drafting Field Methods Handbook.
- Refining schedules and budgets for contract amendment. Pre-construction contract forecasted to extend to end of June 2006 though budget and schedule has not been finalized as of 12/31/02.

Summary:

Efforts to date have been to establish the pre-construction field monitoring methods. Many aspects of the pre-construction monitoring program are in place (bear study, camera sites under existing under-crossing structure, traffic counts, road-kill data collection, tracking bed protocol). The protocols for these data collection efforts are being refined and the databases and quality assurance/quality control systems are being established and will be documented in the Field Methods Handbook. WTI is attending TDC meetings to collaborate on design in terms of monitoring and to document decision-making processes related to wildlife mitigation for the case study. WTI is finalizing the budget and schedule in order to amend the contract for the entire $562,500.